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Reducing Financial Toxicity in Bladder Cancer Care

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Abstract

Purpose of Review—Financial toxicity is a significant concern for many individuals with bladder cancer, which is, overall, the most expensive malignancy, per patient. Financial toxicity, defined as the harmful effects of treatment costs on an individual's quality of life, is associated with worse outcomes and decreased quality of life. Awareness of the objective and subjective factors that contribute to financial toxicity, and ways to mitigate their effects on patients, is essential to reduce the burden of bladder cancer care. This commentary aims to discuss the elements contributing to financial toxicity amongst bladder cancer patients, identify at-risk populations, and review current and potential strategies for mitigating financial burden.

Recent Findings—Bladder cancer is becoming more expensive as the use of novel therapies increases. Early data suggests how some of these novel treatments or changes in treatment delivery may impact costs. Potential innovative strategies for cost reduction include blue light cystoscopy, intravesical gemcitabine-docetaxel rather than BCG for high-risk non-muscle invasive patients, home BCG therapy, and surveillance guideline optimization. However, there is still much work to be done on the potential impacts of these treatment on financial toxicity. While there is a paucity of data on treatment changes to reduce financial toxicity, and cost data can be hard to access, clinicians can still reduce the financial burden of cancer care. Awareness, financial toxicity screening, cost communication, and/or early referral to financial navigators or other similar resources have the potential to reduce financial burden. Despite mounting evidence, these tools/techniques are largely underutilized.

Summary—Many individuals with bladder cancer face significant financial toxicity, with the potential for this to worsen in the setting of rising treatment costs. Novel diagnostic and treatment modifications may reduce financial toxicity. However, awareness, screening, cost discussions, and utilization of financial navigators are tools/techniques that are currently available and should be used to reduce financial burden.

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Keywords

Financial toxicity; direct costs; indirect costs; objective financial toxicity; subjective financial toxicity

INTRODUCTION

Roughly 83,000 Americans will face a new bladder cancer diagnosis in 2024, and 17,000 will die from the disease [1]. As severe as the clinical impact of this disease is on patients and families, the financial ramifications of bladder cancer are also significant. Commonly referred to as financial toxicity, this burden describes the objective financial burden, the subjective financial distress, and how an individual copes with the high costs of care [2]. Although there has been a growing focus on the relationship between bladder cancer and financial toxicity, many of these patients still face serious financial detriment. In fact, while treatment advances have extended lives, they have increased financial toxicity [2-3].

COSTS

Direct costs, which are costs resulting from diagnosis and/or treatment, may significantly contribute to financial toxicity for patients with bladder cancer. It is important to realize, however, that charges to a medical system, insurer, or patient often do not translate directly into financial toxicity [4]. Additionally, while direct costs are a key component of financial toxicity, these costs do not always equate to subjective financial burden [5]. The high rate of bladder cancer recurrence, coupled with a 10-25% rate of non-muscle invasive disease progression, creates a challenging clinical and financial quandary for patients and physicians, often occurring over a span of many years [6]. Collectively, this results in bladder cancer having the highest cost of any malignancy when stratified on a per-patient basis [7]. A patient diagnosed with localized bladder cancer from the years 1998-2013 contributed to a lifetime cumulative expenditure of roughly $124,000 to Medicare, which is likely higher today given new treatment regimens and higher costs [8]. Another study, which separated those with non-muscle invasive disease who did not progress compared to those who progressed estimated a median cost of ~$94,000 at five years from BCG induction for patients without disease progression and $232,729 for those that do progress.[12] Patients with advanced disease may be facing a particularly perilous financial reality, as there has been exponential growth in yearly cost of first-line treatment of metastatic bladder cancer in Europe that closely follows the approvals of atezolizumb, pembrolizumab, and avelumab [9]. The substantial costs of bladder cancer management create the foundation for the objective and subjective burden that patients experience with this disease.

Along with direct costs, indirect costs, or costs that are “incurred not as a result of medical management of the disease but rather of other incurred losses such as lost wages, lost productivity, and costs resulting from the need for home care and childcare that would otherwise not be incurred” represent another key component of objective financial toxicity [10]. Indirect costs may be more difficult to quantify but can contribute to significant patient burden. Lost productivity for example, contributed to 44% of total cancer care costs in a study of Italian BC patients, and 67% of costs in a recent Iranian study [11-12].

Additionally, this effect may be permanent for many as bladder cancer patients face a roughly 60% retirement rate following diagnosis and 22% unemployment rate for previously full-time workers [13]. This loss of income results in worse financial toxicity for individuals still working for pay and those unable to do so [13]. To further complicate the effects of these costs, a greater number of patients experience subjective financial toxicity (eg, psychosocial, emotional, and behavioral responses to costs) than objective financial toxicity [5]. Moreover, subjective financial toxicity seems to have a greater impact on health-related quality of life than objective financial toxicity, emphasizing the importance of the subjective patient experience [5,14].

RISK FACTORS

Recognition of the role that patient characteristics play in the experience of financial toxicity is also pivotal to understanding which populations are at increased risk, and for the development of tools and strategies to reduce the burden of bladder cancer treatment [13]. Those who are younger, without a college degree, and are black all experience worse financial toxicity [15]. Interestingly, despite the fact that bladder cancer treatment costs vary by stage, there is not a clear relationship between stage and the experience of financial toxicity [13,15]. This ambiguity may be in part due to the fact that the costs of bladder cancer are cumulative over a lifetime, with patients experiencing higher total costs of care the longer they live with their diagnosis, and subsequently, the longer that they are exposed to the costs and burden of surveillance [8,16]. Although this makes the reduction of financial toxicity amongst bladder cancer patients a daunting task, it justifies discussion of financial burden when developing surveillance guidelines.

POTENTIAL COST REDUCTION STRATEGIES

Cost-effectiveness and other cost analyses have begun to shed some light on potential strategies to reduce the objective costs to a health system associated with bladder cancer treatment. However, when considering these costs, it is critical to remember that lowering direct costs to an insurer, health system, and/or population, does not necessarily result in reduced patient direct (or indirect) payments and/or lower financial toxicity. In fact, the subjective patient experience may be of equal or greater value to objective financial burden when considering interventions [5,14]. Furthermore, clinical considerations are paramount when discussing and/or deciding upon different treatment regimens.

Critical assessment of surveillance guidelines offers a potential avenue to reduce the direct and indirect costs of bladder cancer. Bladder cancer surveillance, including cystoscopy and recurrent imaging, contribute to more than half of the costs of the disease [17]. These guidelines are largely based on expert opinion and offer an opportunity to optimize efficiency and reduce costs by better risk-stratification of interval timing and duration of surveillance [15]. Making such changes will require quality investigation to assess the balance between the reduction of financial toxicity and the clinical ramifications of surveillance.

Blue light cystoscopy represents one intervention showing some promise to reduce direct costs. Recent literature demonstrates reduced rates of recurrence, increased time to recurrence, and decreased rates of progression when compared to white light cystoscopy; these may present an opportunity to reduce financial toxicity [18-19]. There continues to be questions regarding the practicality and cost of blue light cystoscopy however, that must be addressed with high fidelity trials for this to be a viable technique to reduce financial toxicity [20].

In addition to changes in diagnostic techniques, critically assessing treatment regimens through a cost lens may also be important for patients. The use of sequential intravesical gemcitabine-docetaxel rather than BCG for high risk non-muscle invasive bladder cancer patients may be such a modification with the potential to reduce direct costs. A recent cost-effectiveness study demonstrated a roughly $5,000 cost reduction at 2 years with use of sequential gemcitabine-docetaxel compared to BCG [21]. There remain questions about the clinical efficacy of this change, though these may be answered by the results of the ongoing ECOG-ACRIN EA8212 (BRIDGE) phase III clinical trial. Similarly, the choice of neoadjuvant chemotherapy regimen for muscle-invasive bladder cancer patients may represent an important financial and clinical decision point [22]. A recent single institution study identified a median adjusted cost savings of $7,410 per patient with gemcitabine-cisplatin compared to dose-dense methotrexate-vinblastine-doxorubicin-cisplatin when adjusting for patient age and performance status, a 41% cost-reduction [23]. Similar to intravesical treatment strategies, this may be another consideration in treatment, particularly for patients at increased risk for financial toxicity and/or whose values include reducing objective financial burden of treatment.

Along with techniques to reduce direct costs, mitigation of the financial burden of bladder cancer requires curtailment of indirect costs, including those resulting from travel to appointments and lost productivity. The administration of BCG at home represents one potential avenue to achieve such an improvement, with initial success of this technique demonstrated in the United States and United Kingdom [24]. Patients also report a beneficial result of this technique. A recent study reported that 72% of surveyed patients would be open to receiving in-home intravesical therapy, and over 50% felt that this change would make intravesical therapy less disruptive to their lives [25]. A trial examining this technique in the United States is needed to explore the clinical, legal, and financial practicality of this approach.

CURRENT INTERVENTIONS

While new and modified treatments show promise for the mitigation of financial toxicity in bladder cancer patients, there are tools that clinicians can use now to make a substantial impact. Clinician-patient cost discussions are one such intervention to reduce financial burden [13]. A majority of patients seek discussions of cost with their clinicians, despite the fact that these conversations occur in a minority of patient-clinician interactions [13-14,26-27]. In one such study, 52% of patients desired such a conversation despite only 19% having it [14]. Clinician concerns regarding cost knowledge, effectiveness of these discussions, and lack of resources, are commonly cited barriers to these conversations that

limit their utilization [28-29]. While accurate direct costs can be difficult to obtain at the time of treatment, these interactions can still focus on patient values, joint decision-making, costs as a side effect of treatment, and expected potential direct and indirect costs. The effect of these conversations is significant, as early cost discussions may better prepare patients and reduce treatment non-adherence [14].

Financial toxicity risk screening is another tool that clinicians can use to facilitate cost discussions and potentially alleviate the financial burden of bladder cancer. Identifying at-risk patients raises awareness amongst clinicians and patients, facilitates communication, and offers the critical opportunity to make referrals to financial navigators or similar resources, collectively reducing costs and/or the subjective financial burden of care [30-31]. Additionally, financial navigation has been shown to result in significantly higher quality of life scores amongst cancer patients [32]. With the benefits of cost conversations adequately demonstrated and early trials of financial navigation programs, screening is a logical practice to ensure that discussions take place at the earliest opportunity. In addition to financial navigation programs internal to a practice, clinicians can also refer their patients to other community and population-level resources to assist with the direct and indirect costs of bladder cancer care [33-35].

CONCLUSION

Bladder cancer is an expensive diagnosis that results in substantial financial burden. Despite considerable literature identifying the costs of bladder cancer, there remains a paucity of research assessing financial toxicity amongst individuals with bladder cancer. While there are investigations of financial toxicity that include bladder cancer patients, as of 2021 there were only 5 studies dedicated to the assessment of financial toxicity solely amongst bladder cancer patients [36]. There is a significant need for further investigation of this matter, with focus on techniques for financial toxicity screening, tools to facilitate cost discussions and interventions to reduce financial burden.

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Key Points

- Bladder cancer is the most expensive malignancy to manage, per person; costs continue to increase as novel therapies are introduced. These high costs have the potential to result in financial toxicity.
- Potential modifications to diagnostic techniques and treatment strategies to reduce costs are currently being studied. However, the impact of these treatment strategies on financial toxicity is unclear.
- Additional investigation is required to determine if potential cost-reduction strategies will reduce financial toxicity.
- Interventions that are currently available to reduce financial toxicity include: awareness, communication, screening and early referral to financial counseling/navigators and/or other similar resources.